

WHAT IS CLAIMED IS:

1. A method for reducing immune-mediated damage to cells, tissue or organs comprising contacting a cell, tissue or organ with an immunoprotective amount of an Hsp47-related immunoprotective polypeptide.

2. The method of Claim 1 wherein said Hsp47-related immunoprotective polypeptide comprises the sequence  $AX_1X_2X_3AX_4X_5X_6R$  wherein  $X_1$  is V, L, A or T,  $X_2$  is L or H,  $X_3$  is S or V,  $X_4$  is D or E,  $X_5$  is Q, K or R, and  $X_6$  is L or V.

3. The method of Claim 1 wherein said Hsp47-related immunoprotective polypeptide comprises the sequence  $AX_1X_2X_3AEQLR$ , where  $X_1$ ,  $X_2$  and  $X_3$  can be any amino acid.

4. The method according to Claim 3 wherein  $X_1$  is V or A,  $X_2$  is L or H and  $X_3$  is S or V.

5. The method according to Claim 1 wherein said polypeptide comprises the sequence AVLSAEQLR.

6. The method according to Claim 1 wherein said immunemediated damage caused by an autoimmune disease, graft vs. host disease or host vs. graft disease.

7. The method according to Claim 1 wherein said contacting is *in vivo*.

8. A method for reducing immune-mediated damage to cells, tissue or organs comprising:

contacting a cell, tissue or organ with an immunoprotecting amount of a composition comprising Hsp47 polypeptide.

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9. The method according to Claim 8 wherein said Hsp47 polypeptide comprises an amino acid sequence selected from the group consisting of:
- the amino acid sequence shown in Figure 1;
  - an amino acid sequence having at least about 70% amino acid sequence identity with the amino acid sequence of (a);
  - an immunoprotecting fragment of (a) or (b); and
  - an immunoprotecting variant of (a) or (b).
10. The method according to Claim 9 wherein said immunoprotecting fragment of Hsp 47 comprises the amino acid sequence AVLSAEQLR.
11. The method according to Claim 9 wherein said immunoprotecting variant of Hsp 47 is a conserved variant of the sequence AVLSAEQLR.
12. The method according to Claim 9 wherein said immunoprotecting variant of Hsp 47 comprises the sequence AAHVAEQLR.
13. The method according to Claim 8 wherein said Hsp47 polypeptide comprises an amino acid sequence selected from the group consisting of:
- the amino acid sequence shown in Figure 1;
  - an amino acid sequence encoded by a nucleic acid that hybridizes to a nucleic acid that encodes the amino acid sequence shown in Figure 1;
  - an immunoprotecting fragment of (a) or (b); and
  - an immunoprotecting variant of (a) or (b).
14. The method according to Claim 8 wherein said contacting is *in vivo*.
15. The method according to Claim 8 wherein said immune mediated damage is caused by an autoimmune disease, graft vs. host disease or host vs. graft disease.

16. A method for reducing immune-mediated damage to cells, tissue or organs comprising:
  - contacting a cell, tissue or organ with an immunoprotecting amount of a composition comprising brefeldin.
17. The method according to Claim 16 wherein said immune mediated damage is caused by an autoimmune disease, graft vs. host disease or host vs. graft disease.
18. The method according to Claim 16 wherein said contacting is *in vivo*.
19. A method for reducing immune-mediated damage to cells, tissue or organs comprising:
  - contacting a cell, tissue or organ with an expressible nucleic acid encoding an Hsp47-related immunoprotective polypeptide.
20. The method according to Claim 19 wherein said Hsp47-related immunoprotective polypeptide comprises the sequence AX<sub>1</sub>X<sub>2</sub>X<sub>3</sub>AX<sub>4</sub>X<sub>5</sub>X<sub>6</sub>R wherein X<sub>6</sub> is V, L, A or T, X<sub>2</sub> is L or H, X<sub>3</sub> is S or V, X<sub>4</sub> is D or E, X<sub>5</sub> is Q, K or R, and X<sub>6</sub> is L or V.
21. The method according to Claim 19 wherein said 47-related immunoprotective polypeptide comprises the sequence AX<sub>1</sub>X<sub>2</sub>X<sub>3</sub>AEQLR, where X<sub>1</sub>, X<sub>2</sub> and X<sub>3</sub> can be any amino acid.
22. The method according to Claim 21 wherein X<sub>1</sub> is V or A, X<sub>2</sub> is L or H and X<sub>3</sub> is S or V.
23. The method, according to Claim 19, wherein said polypeptide comprises the sequence AVLSAEQLR.
24. The method according to Claim 19, wherein said immune mediated damage caused by an autoimmune disease, graft vs. host disease or host vs. graft disease.

25. The method, according to Claim 19, wherein said contacting is *in vivo*.
26. A method of adoptive immune therapy to treat cancer comprising:  
culturing T-lymphocytes from a donor under conditions wherein a specific subset of said T-lymphocytes are expanded; and  
introducing said expanded subset of said T lymphocytes to a patient in conjunction with an immunoprotecting amount of an immunoprotective agent selected from the group consisting of brefeldin and Hsp47-related immunoprotective polypeptides.
27. The method according to Claim 26 wherein said immunoprotective polypeptide comprises the sequence AX<sub>1</sub>X<sub>2</sub>X<sub>3</sub>AX<sub>4</sub>X<sub>5</sub>X<sub>6</sub>R wherein X<sub>1</sub> is V, L, A or T, X<sub>2</sub> is L or H, X<sub>3</sub> is S or V, X<sub>4</sub> is D or E, X<sub>5</sub> is Q, K or R, and X<sub>6</sub> is L or V.
28. The method of Claim 26 wherein said immunoprotective polypeptide comprises the sequence AX<sub>1</sub>X<sub>2</sub>X<sub>3</sub>AEQLR, where X<sub>1</sub>, X<sub>2</sub> and X<sub>3</sub> can be any amino acid.
29. A method according to Claim 28 wherein X<sub>1</sub> is V or A, X<sub>2</sub> is L or H and X<sub>3</sub> is S or V.
30. A method for identifying cells which bind to a polypeptide comprising contacting said cells with a polypeptide comprising the sequence AX<sub>1</sub>X<sub>2</sub>X<sub>3</sub>AX<sub>4</sub>X<sub>5</sub>X<sub>6</sub>R wherein X<sub>1</sub> is V, L, A or T, X<sub>2</sub> is L or H, X<sub>3</sub> is S or V, X<sub>4</sub> is D or E, X<sub>5</sub> is Q, K or R, and X<sub>6</sub> is L or V;  
wherein said polypeptide further comprises a detectable label, and detecting cells which bind said labeled polypeptide.
31. The method of Claim 30 wherein said detectable label is a fluorescent label and said detecting is by fluorescence activated cell sorting.

33. An Hsp47 polypeptide comprising the sequence AVL~~SAE~~QLR and a label.

5 35. An Hsp47-related immunoprotective polypeptide in combination with a cell, tissue or organ.

36. An antibody which specifically binds to an Hsp47 polypeptide epitope comprising the sequence AX<sub>1</sub>X<sub>2</sub>X<sub>3</sub>AEQLR.

37. An anti-idiotypic antibody to a polypeptide comprising the sequence  
10 AVLSAEQLR.

38. A vector comprising nucleic acid encoding human Hsp47 polypeptide operably linked to control sequences recognized by a host cell transformed with the vector.

39. A host cell comprising the vector of Claim 38.

40. A process for producing an Hsp47 polypeptide comprising culturing the host  
15 cell of Claim 39 under conditions suitable for expression of said Hsp47 polypeptide  
and recovering said Hsp47 polypeptide from the cell culture.

41. A chimeric molecule comprising a heterologous amino acid sequence fused to an Hsp47 polypeptide.

42. The chimeric molecule of Claim 41, wherein said heterologous amino acid  
20 sequence is an Fc region of an immunoglobulin or biotin.

